

FIG. 1

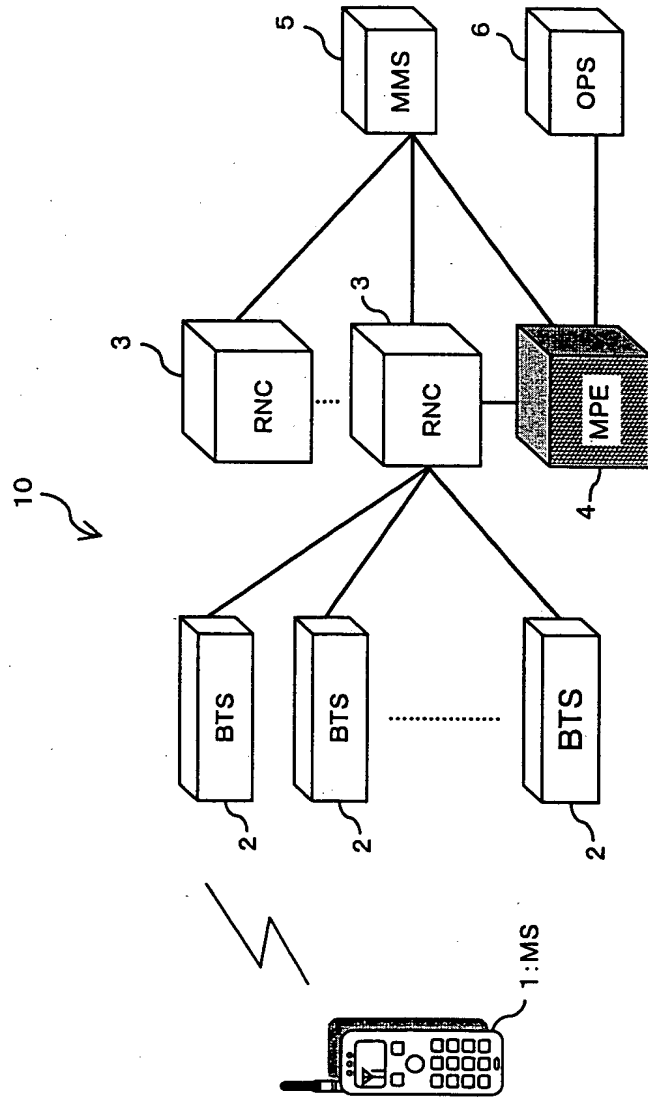


FIG. 2

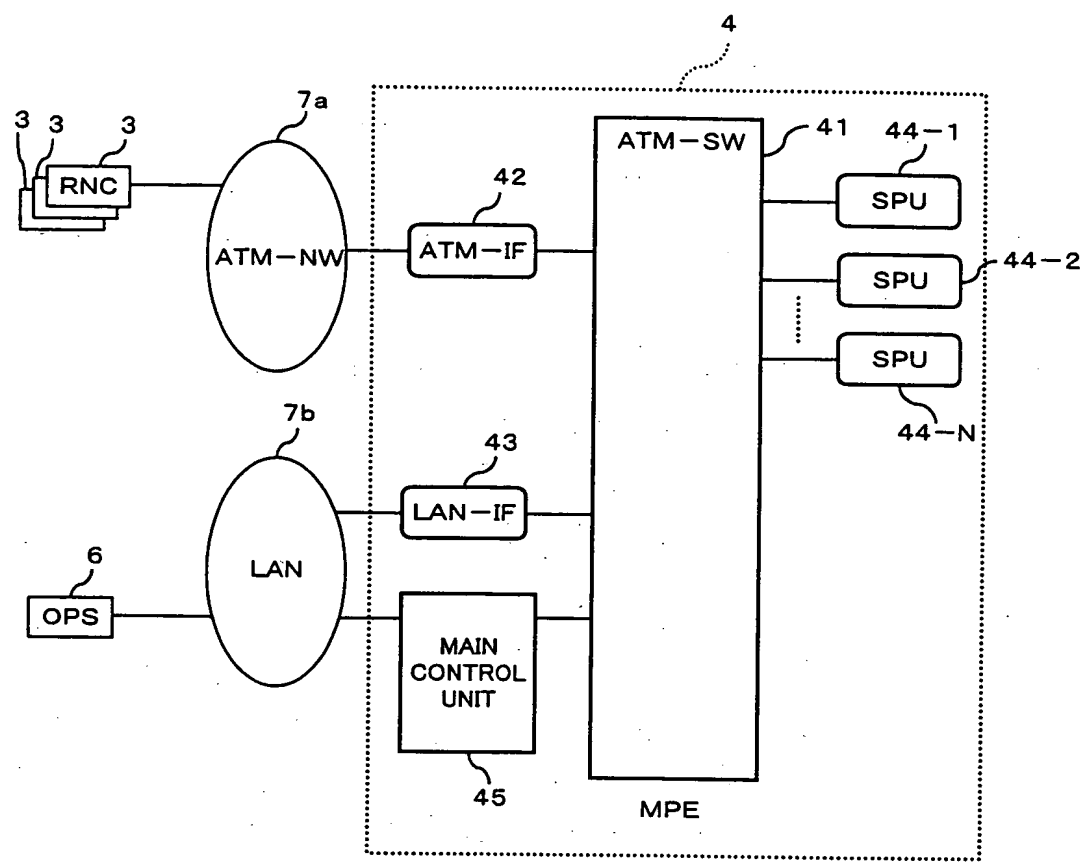
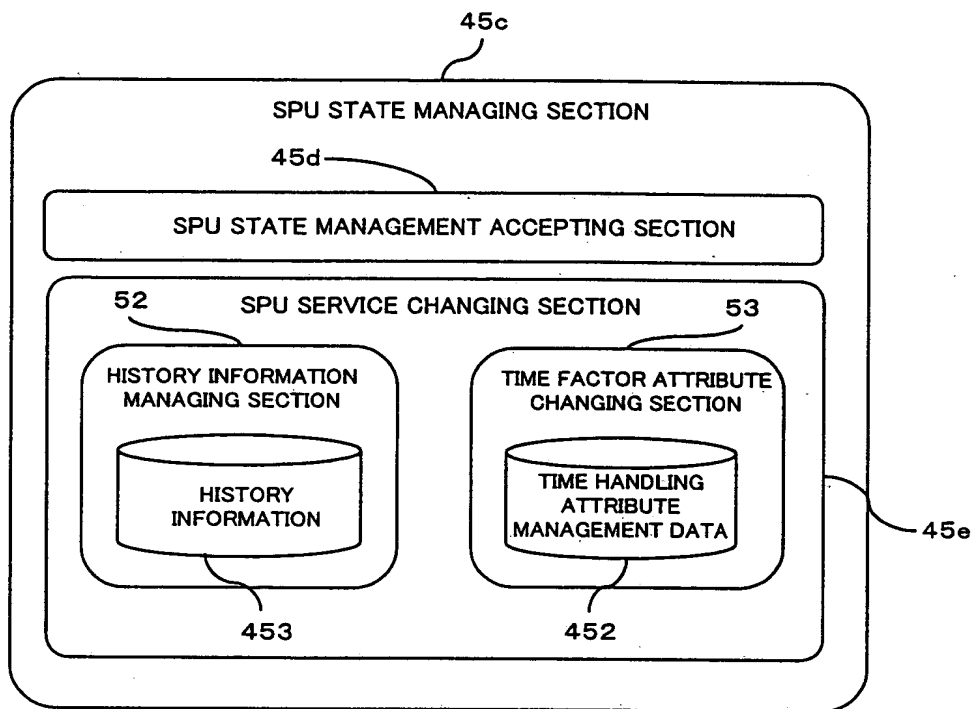


FIG. 2



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FIG. 4



2025 RELEASE UNDER E.O. 14176

FIG. 5A

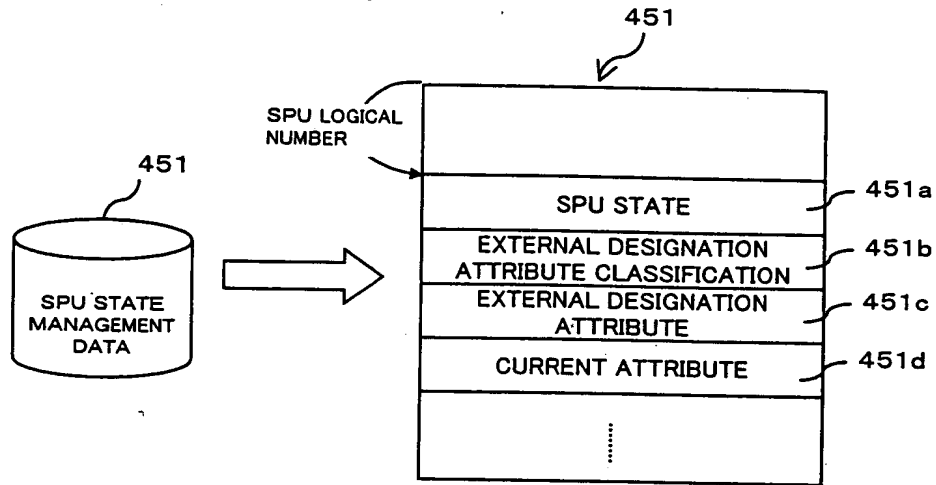


FIG. 5B

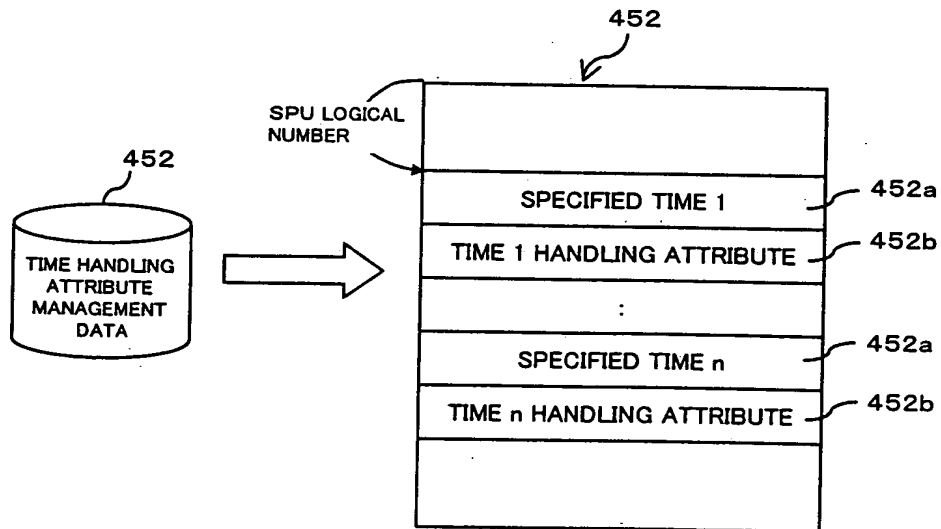


FIG. 6

453

SPU LOGICAL NUMBER	EXTERNAL DESIGNATION ATTRIBUTE	SPECIFIED TIME																							
		1 0:00 ~ 1:00	2 1:00 ~ 2:00	3 2:00 ~ 3:00	4 3:00 ~ 4:00	5 4:00 ~ 5:00	6 5:00 ~ 6:00	7 6:00 ~ 7:00	8 7:00 ~ 8:00	9 8:00 ~ 9:00	10 9:00 ~ 10:00	11 10:00 ~ 11:00	12 11:00 ~ 12:00	13 12:00 ~ 13:00	14 13:00 ~ 14:00	15 14:00 ~ 15:00	16 15:00 ~ 16:00	17 16:00 ~ 17:00	18 17:00 ~ 18:00	19 18:00 ~ 19:00	20 19:00 ~ 20:00	21 20:00 ~ 21:00	22 21:00 ~ 22:00	23 22:00 ~ 23:00	24 23:00 ~ 0:00
1	1: VOICE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2: ISDN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3: PACKET	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4: PIAPS	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5: FAX	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6: MODEM	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7: PPP	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	0: NO DESIGNATION	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	0: NO DESIGNATION	2	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	0: NO DESIGNATION	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	0: NO DESIGNATION	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	0: NO DESIGNATION	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	0: NO DESIGNATION	3	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18	0: NO DESIGNATION	0	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
19	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	0: NO DESIGNATION	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	0: NO DESIGNATION	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	0: NO DESIGNATION	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
24	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
25	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
26	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0: NO DESIGNATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	SPARE PKG																								
32	SPARE PKG																								

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FIG. 7

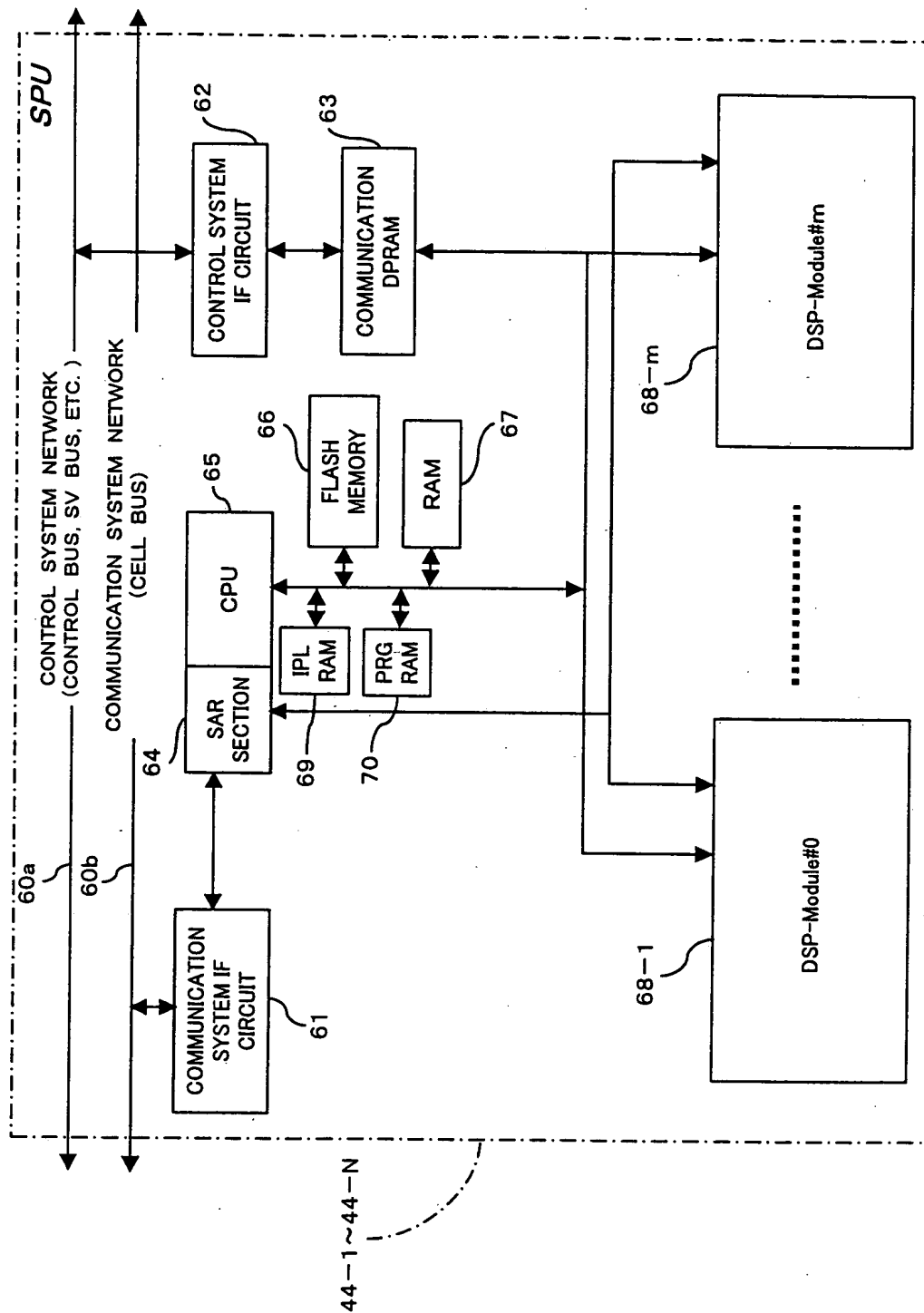
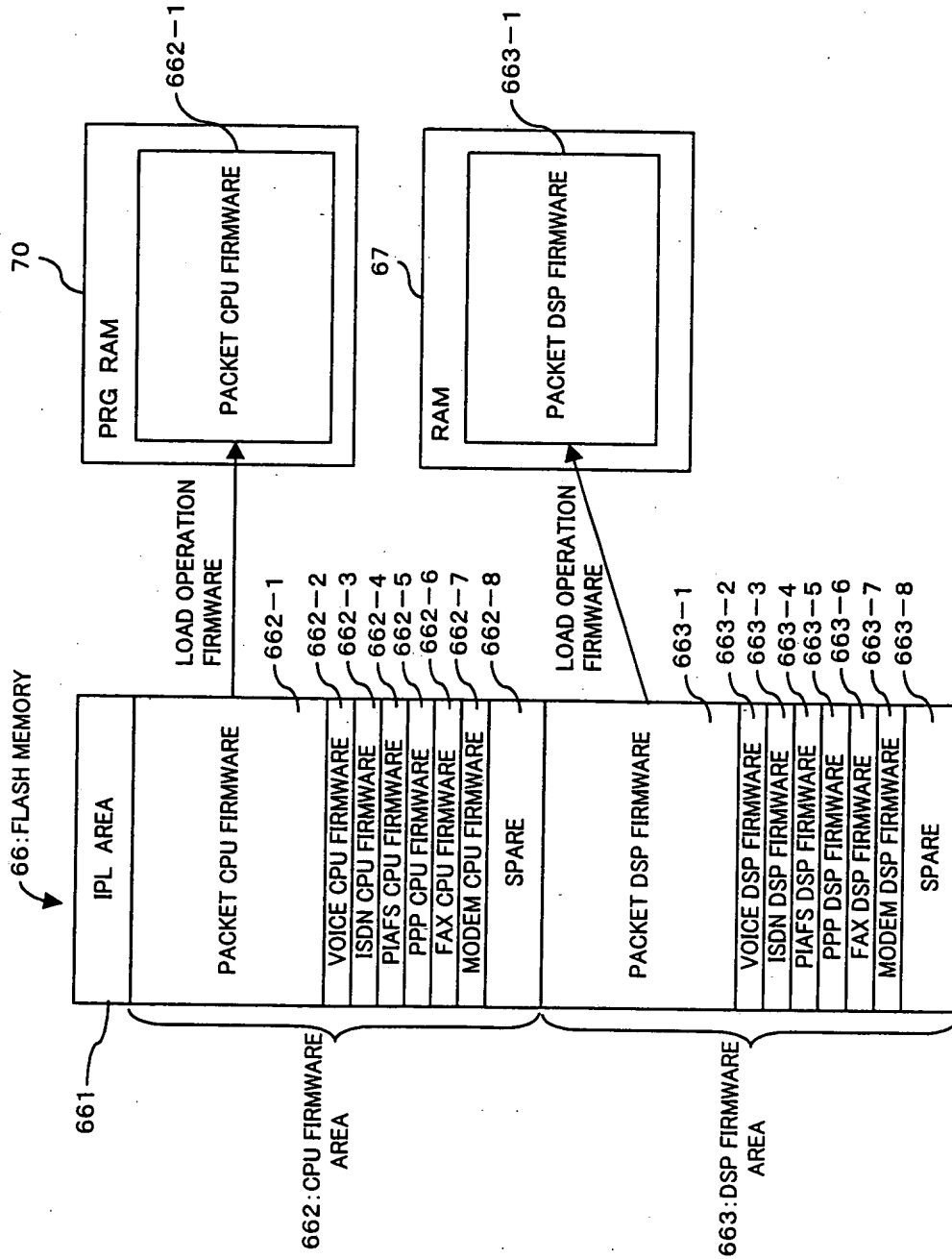


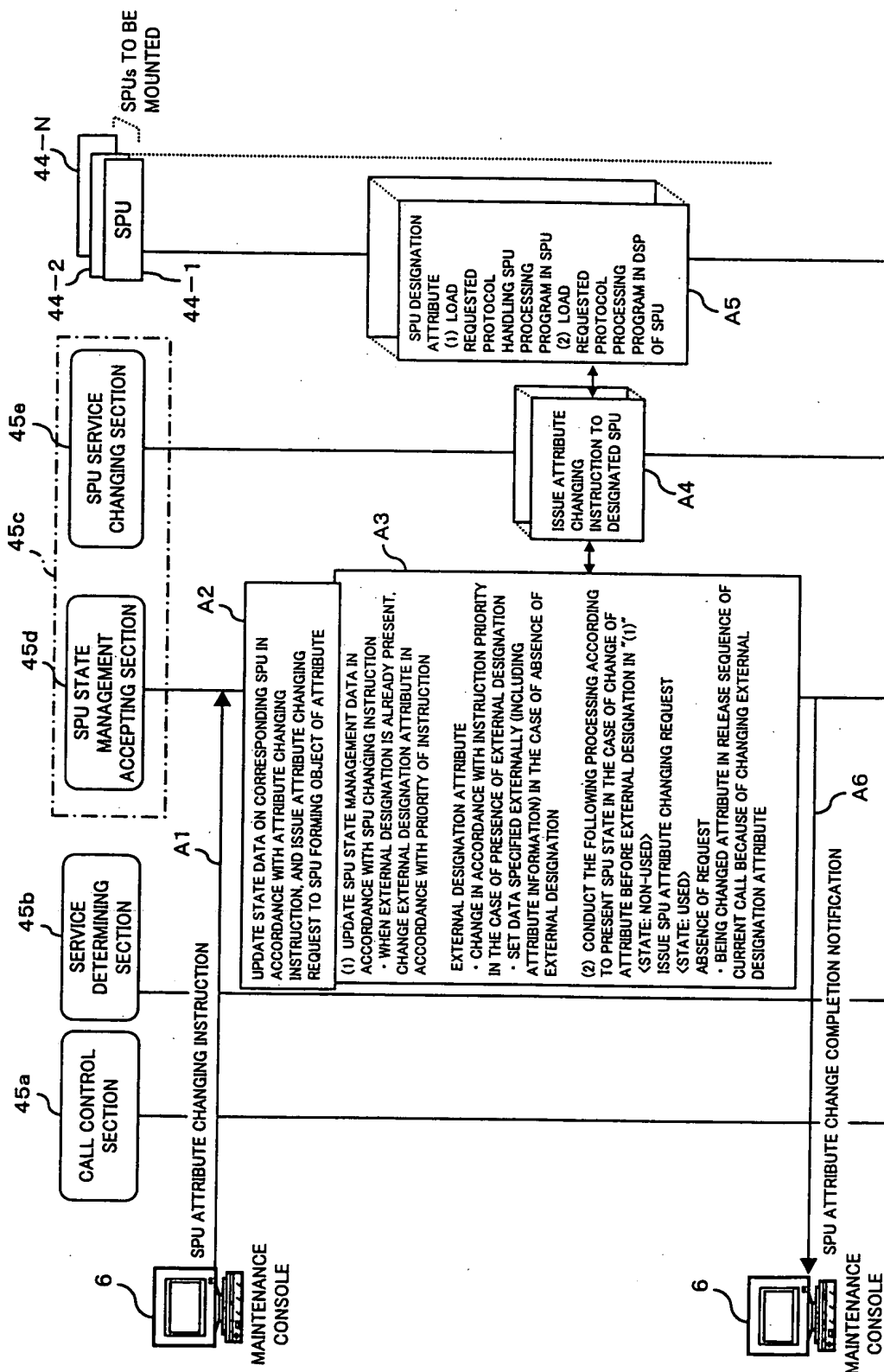
FIG. 8



24 0808

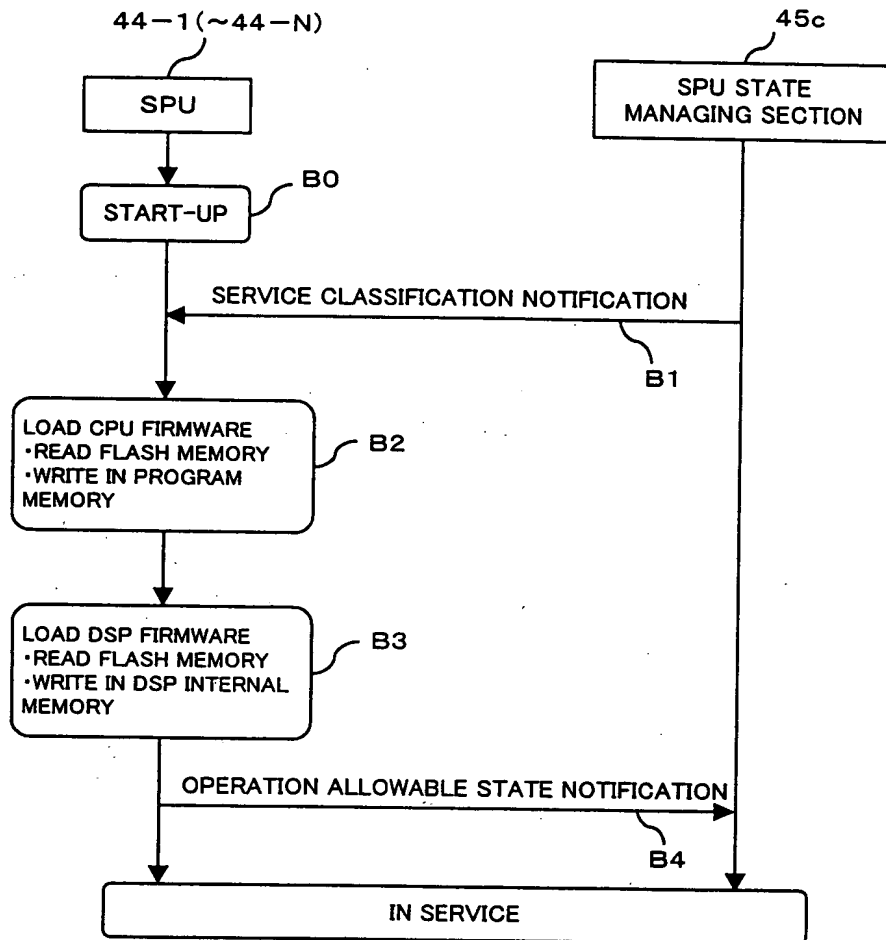


FIG. 9



10'062x

FIG. 10



10'062x

FIG. 11

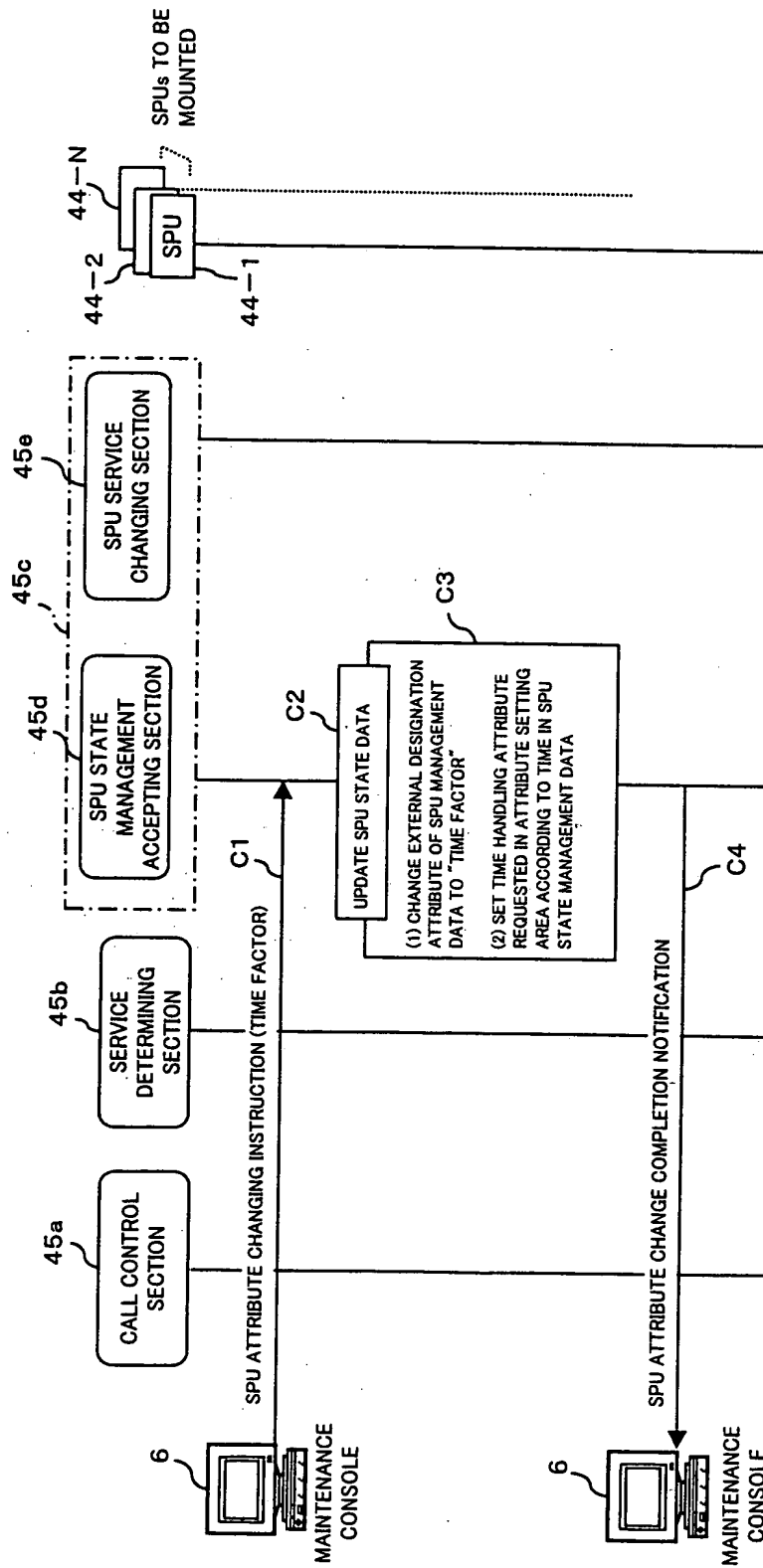


Figure 1 is a block diagram illustrating the architecture and process flow of a higher-rank node for SPU management. The diagram is divided into several functional sections and a sequence of steps (D1-D11).

**Functional Sections:**

- 45a: CALL CONTROL SECTION**
- 45b: SERVICE DETERMINING SECTION**
- 45c: SPU STATE MANAGEMENT ACCEPTING SECTION**
- 45d: SPU SERVICE CHANGING SECTION**
- 45e: SPU SERVICE CHANGING SECTION**
- 44-1 to 44-N: SPUs TO BE MOUNTED**

**Process Flow and Steps:**

- D1:** CALL CONNECTION REQUEST (from HIGHER-RANK NODE 5)
- D2:** CONVERSION PROTOCOL DETERMINING REQUEST
- D3:** DETERMINE CONVERSION SERVICE PROTOCOL ON THE BASIS OF RECEIVED MESSAGE
- D4:** SEIZING REQUEST OF SPU FORMING OBJECT OF CONVERSION (REQUESTED SERVICE PROTOCOL # A)
- D5:** SEARCH FREE SPU AGREEING WITH REQUESTED SERVICE PROTOCOL ATTRIBUTE (#1)  
(2) UPDATE CORRESPONDING SPU STATE MANAGEMENT DATA WHEN TARGET SPU EXISTS  
STATE: FREE → USED  
EXTERNAL DESIGNATION ATTRIBUTE (FOLLOW EXTERNAL WHEN DESIGNATED EXTERNALLY)  
ATTRIBUTE REQUESTED SERVICE (DESIGNATED BY CALL)  
EXTERNALLY PROTOCOL/DESIGNATED BY CALL  
(3) ISSUE SPU ATTRIBUTE CHANGING REQUEST WHEN "(2)" SHOWS "NOT DESIGNATED EXTERNALLY" AND ATTRIBUTE BEFORE UPDATING IS OF "NO DESIGNATION" OR WHEN "(2)" SHOWS "DESIGNATED EXTERNALLY", AND CURRENT ATTRIBUTE AND EXTERNAL DESIGNATION ATTRIBUTE DO NOT AGREE WITH EACH OTHER
- D6:** \* 1: AGREEMENT WITH REQUEST SERVICE PROTOCOL ATTRIBUTE  
(1) MAKE DECISION ON ATTRIBUTE OF CORRESPONDING SPU ON THE BASIS OF ATTRIBUTE DEFINITION DATA CORRESPONDING TO EACH INSTRUCTION WHEN EXTERNAL DESIGNATION ATTRIBUTE FROM MAINTENANCE CONSOLE OPERATES
- D7:** GIVE ATTRIBUTE CHANGING INSTRUCTION TO DESIGNATED SPU
- D8:** SPU DESIGNATION ATTRIBUTE (1) LOAD REQUESTED PROTOCOL HANDLING SPU PROGRAM (2) LOAD REQUESTED PROTOCOL PROCESSING PROGRAM IN PROGRAM IN DSP OF SPU
- D9:** PERFORM CALL CONTROL SWITCHING SETTING BETWEEN SECURED SPU AND CALL SETTING REQUEST ISSUING HIGHER-RANK NODE
- D10:** CALL CONNECTION COMPLETION NOTIFICATION
- D11:** CALL CONNECTION COMPLETION NOTIFICATION (to HIGHER-RANK NODE 5)

\* 1: AGREEMENT WITH REQUEST  
SERVICES PROTOCOL ATTRIBUTE  
(1) MAKE DECISION ON ATTRIBUTE  
OF CORRESPONDING SPU ON THE BASIS  
OF ATTRIBUTE DEFINITION DATA  
WHEN EXTERNAL DESIGNATION ATTRIBUTE  
FROM MAINTENANCE CONSOLE OPERATES

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5 HIGHER-RANK NODE

CALL RELEASE REQUEST

45a CALL CONTROL SECTION

45b SERVICE DETERMINING SECTION

45c SPU SERVICE CHANGING SECTION

45d SPU STATE MANAGEMENT ACCEPTING SECTION

44-1, 44-2, 44-N SPU

SPUs TO BE MOUNTED

E1

E2

PERFORM CALL CONTROL SWITCHING RELEASE BETWEEN SECURED SPU AND CALL SETTING REQUEST ISSUING HIGHER-RANK NODE

E3

CONVERSION SPU RELEASE REQUEST

E4

1) UPDATE CORRESPONDING SPU STATE MANAGEMENT DATA  
STATE: USED → FREE  
(2) MAINTAIN ATTRIBUTE IN STATE OF REQUESTED SERVICE PROTOCOL (SETTING BY CALL)  
HOWEVER, WHEN EXTERNAL DESIGNATION ATTRIBUTE IS SPECIFIED AND IS DIFFERENT FROM CURRENT ATTRIBUTE, CHANGE SPU ATTRIBUTE IN ACCORDANCE WITH EXTERNAL DESIGNATION ATTRIBUTE

E5

ISSUE ATTRIBUTE CHANGING INSTRUCTION TO DESIGNATED SPU

E6

SPU DESIGNATION ATTRIBUTE REQUESTED PROTOCOL HANDLING SPU PROCESSING PROGRAM

E7

E8

CALL RELEASE COMPLETION NOTIFICATION

5 HIGHER-RANK NODE

FIG. 14

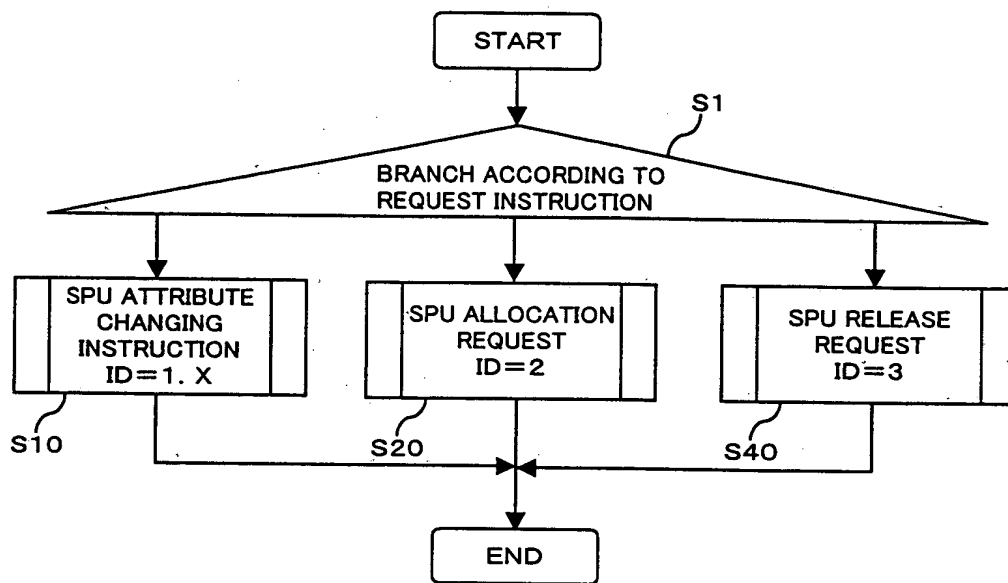


FIG. 15

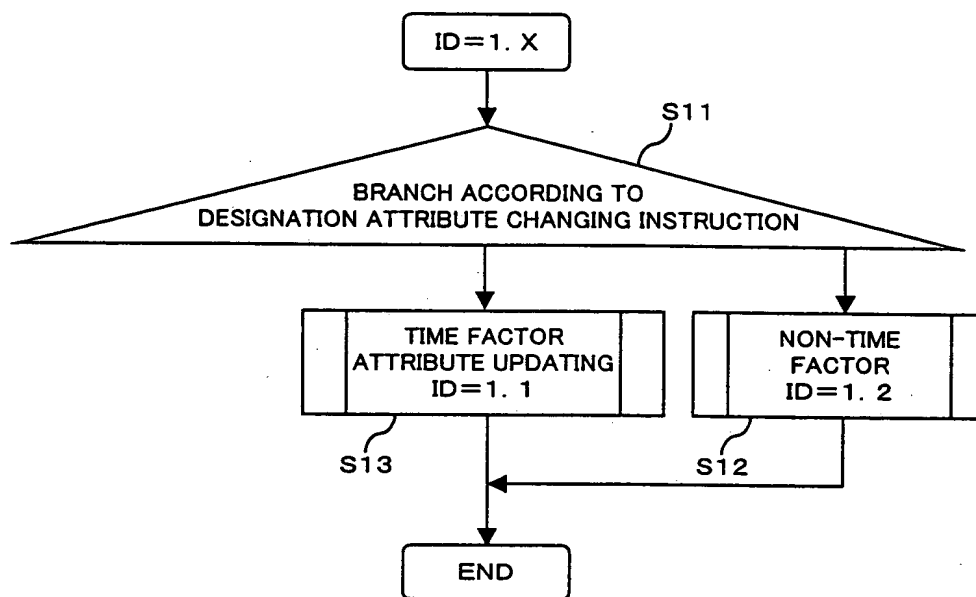


FIG. 16

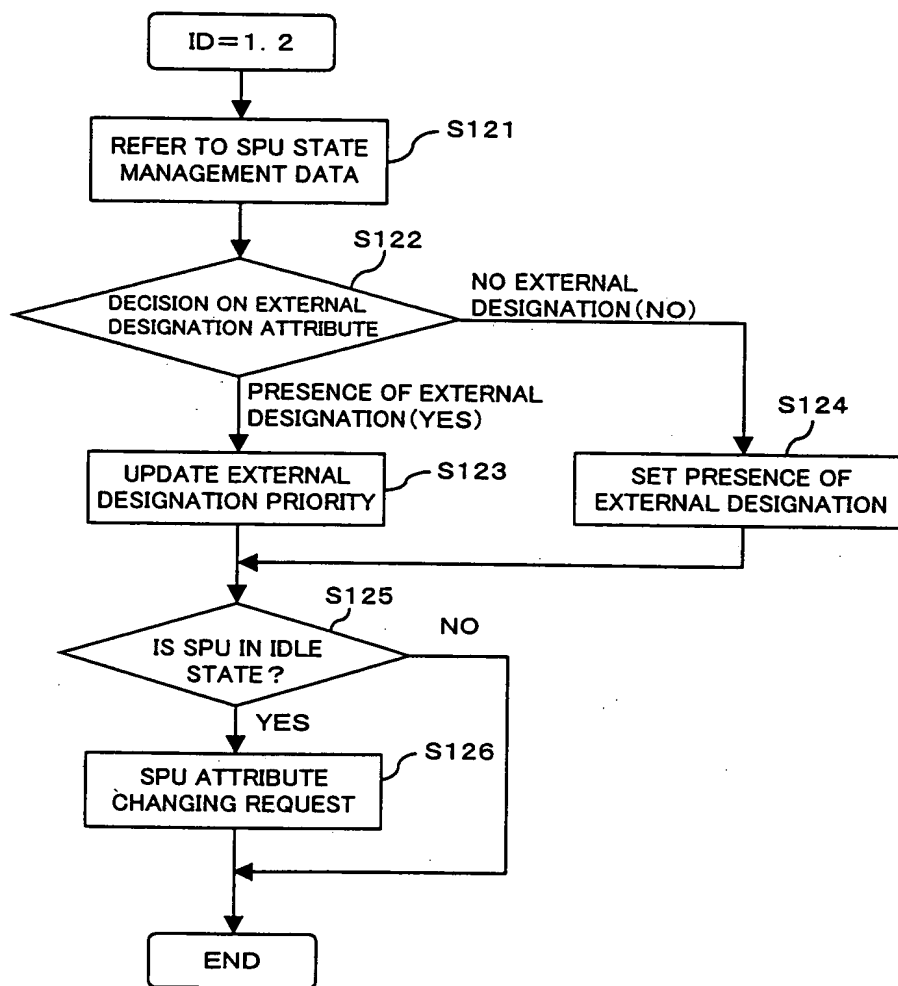


FIG. 16



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FIG. 17

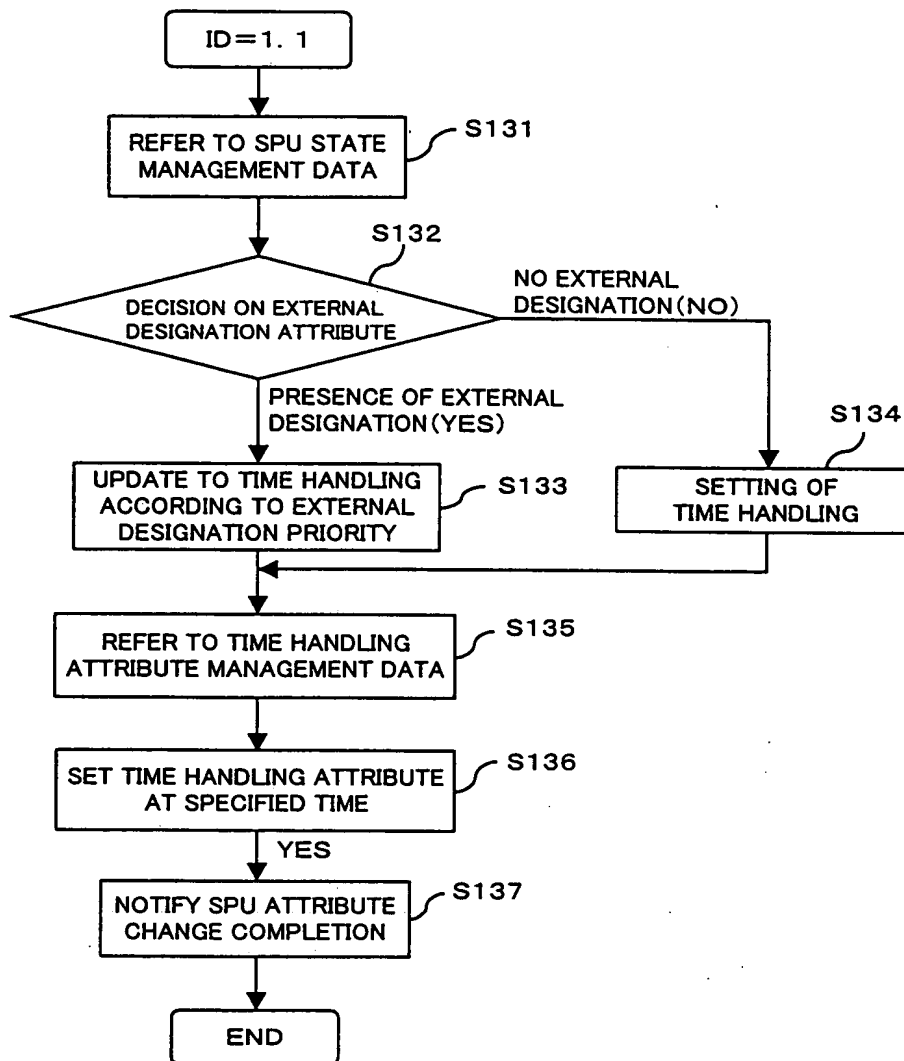
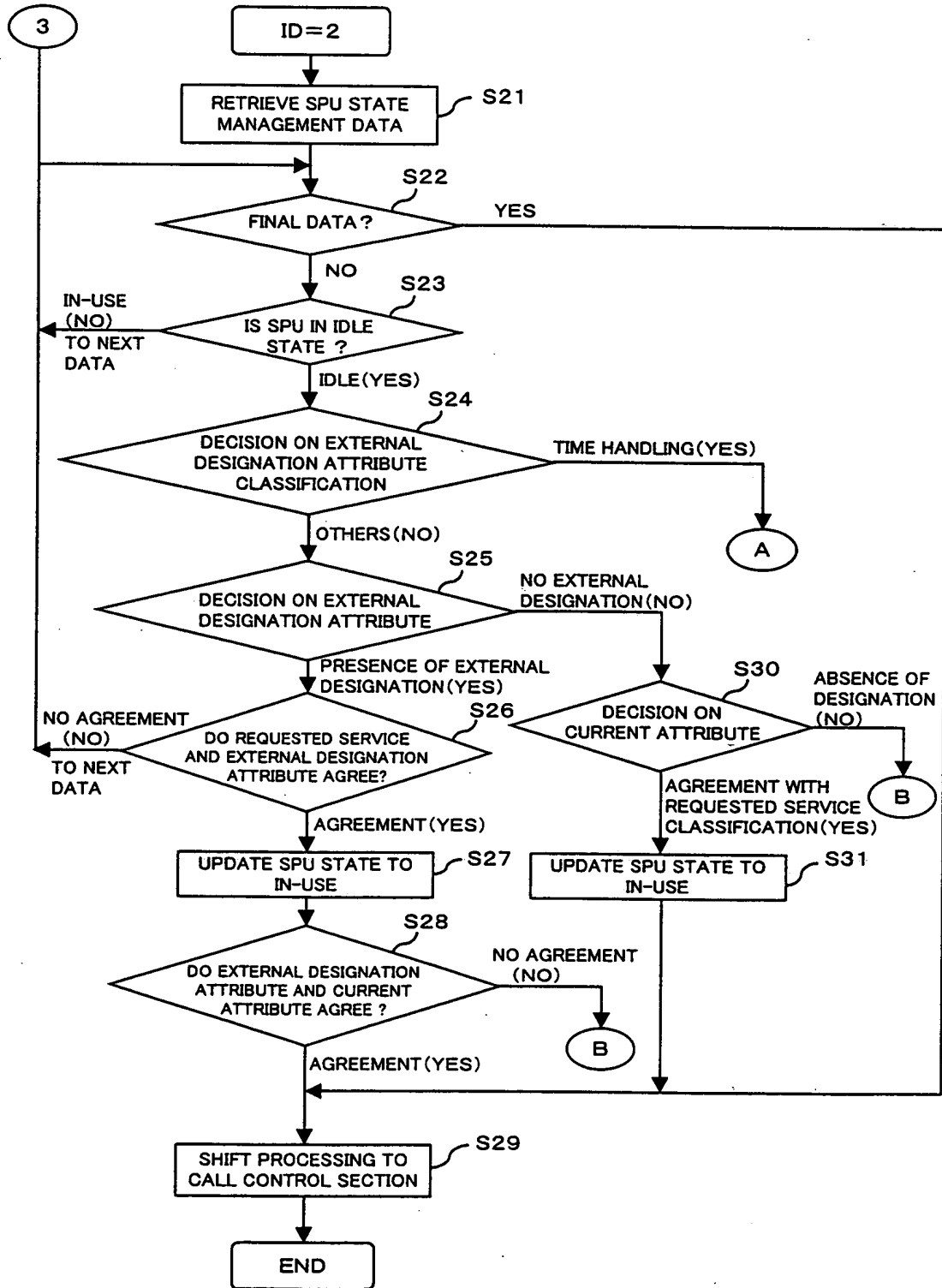


FIG. 17

FIG. 18



TOP SECRET

FIG. 19

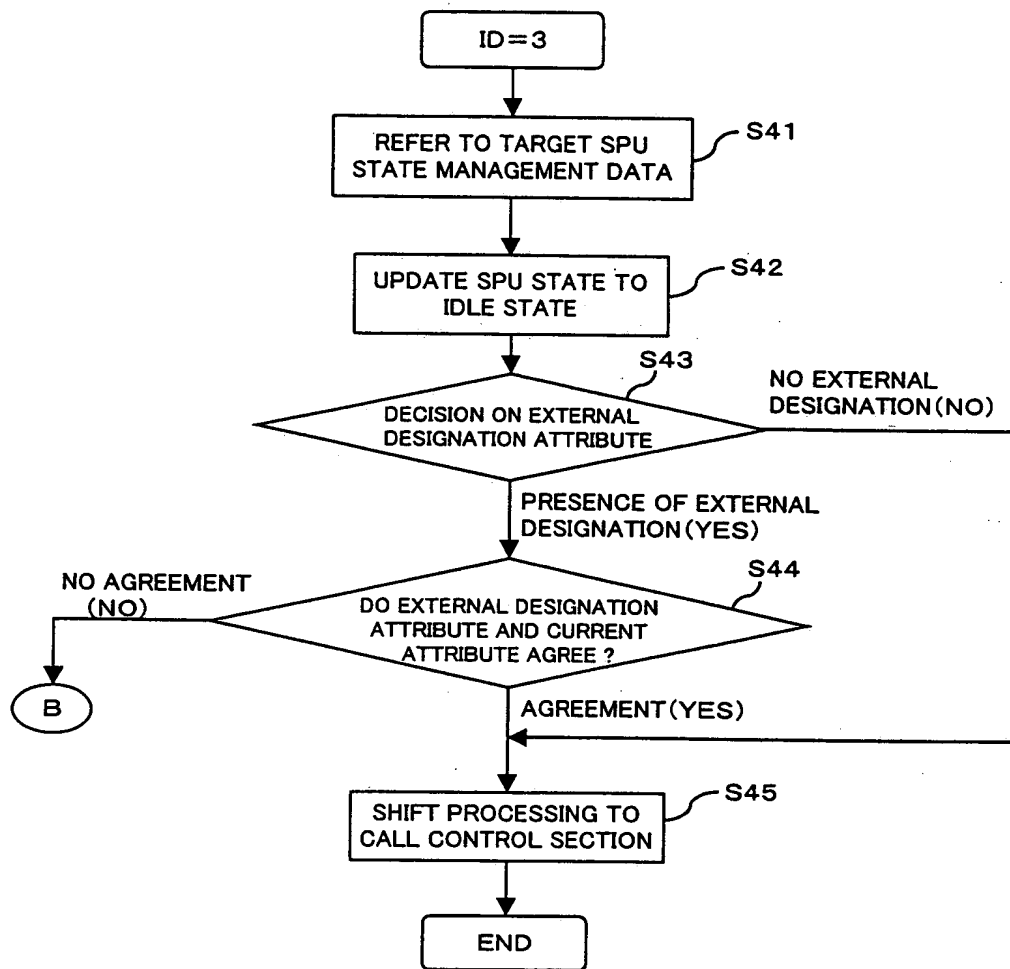


FIG. 19

FIG. 20

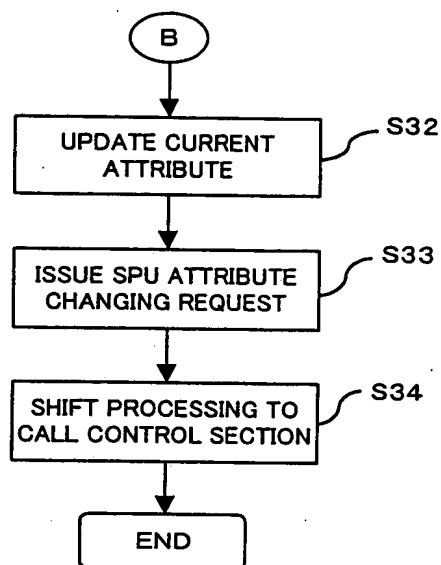


FIG. 21

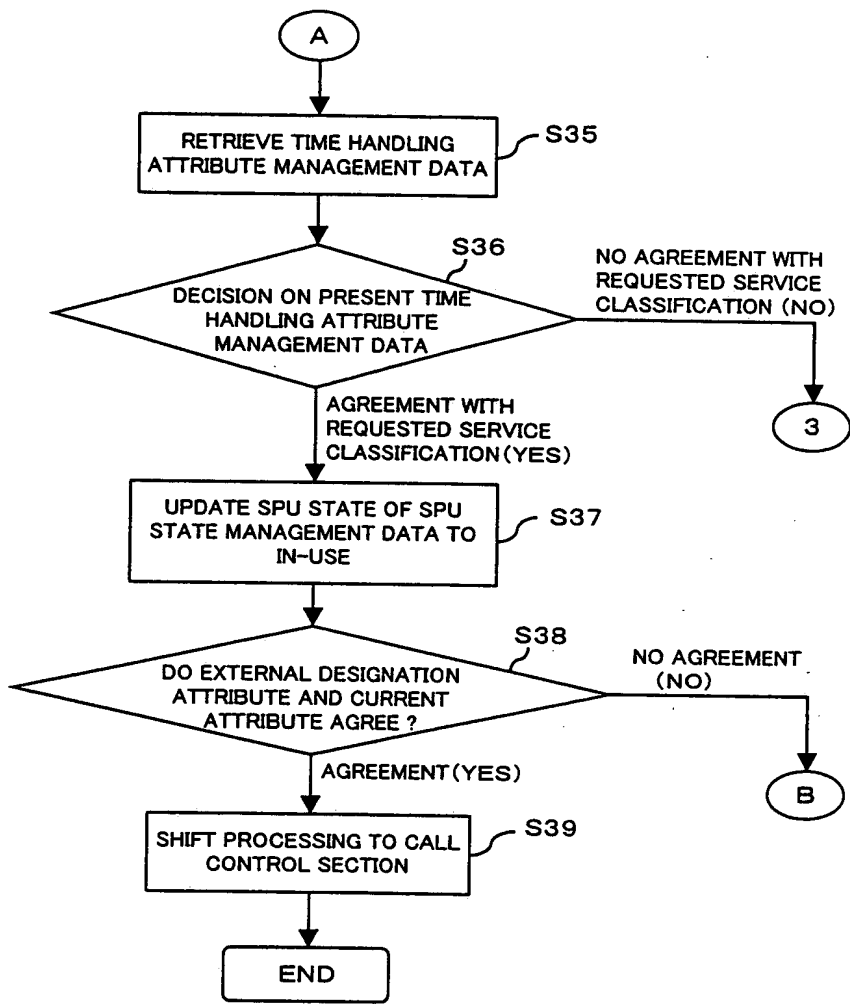


FIG. 21

FIG. 22A

EXTERNAL DESIGNATION ATTRIBUTE SET PREVIOUSLY  
EXAMPLE (PREVIOUS DESIGNATION IS KEPT TO A MINIMUM, AND OTHER DESIGNATION IS HANDLED IN REAL TIME IN OPERATION)

SPU LOGICAL NUMBER	EXTERNAL DESIGNATION ATTRIBUTE
1	1: VOICE
2	2: ISDN
3	3: PACKET
4	4: PIAFS
5	5: FAX
6	6: MODEM
7	7: PPP
8	0: NO DESIGNATION
9	0: NO DESIGNATION
10	0: NO DESIGNATION
11	0: NO DESIGNATION
12	0: NO DESIGNATION
13	0: NO DESIGNATION
14	0: NO DESIGNATION
15	0: NO DESIGNATION
16	0: NO DESIGNATION
17	0: NO DESIGNATION
18	0: NO DESIGNATION
19	0: NO DESIGNATION
20	0: NO DESIGNATION
21	0: NO DESIGNATION
22	0: NO DESIGNATION
23	0: NO DESIGNATION
24	0: NO DESIGNATION
25	0: NO DESIGNATION
26	0: NO DESIGNATION
27	0: NO DESIGNATION
28	0: NO DESIGNATION
29	0: NO DESIGNATION
30	0: NO DESIGNATION
31	SPARE PKG
32	SPARE PKG

FIG. 22B

EXTERNAL DESIGNATION ATTRIBUTE SET PREVIOUSLY  
EXAMPLE (RATIO OF SERVICES PREDICATABLE PREVIOUSLY IS RESERVED)

SPU LOGICAL NUMBER	EXTERNAL DESIGNATION ATTRIBUTE
1	1: VOICE
2	1: VOICE
3	1: VOICE
4	1: VOICE
5	1: VOICE
6	2: ISDN
7	2: ISDN
8	2: ISDN
9	2: ISDN
10	2: ISDN
11	3: PACKET
12	3: PACKET
13	3: PACKET
14	3: PACKET
15	3: PACKET
16	4: PIAFS
17	4: PIAFS
18	5: FAX
19	5: FAX
20	6: MODEM
21	6: MODEM
22	7: PPP
23	7: PPP
24	0: NO DESIGNATION
25	0: NO DESIGNATION
26	0: NO DESIGNATION
27	0: NO DESIGNATION
28	0: NO DESIGNATION
29	0: NO DESIGNATION
30	0: NO DESIGNATION
31	SPARE PKG
32	SPARE PKG

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FIG. 23  
RELATED ART

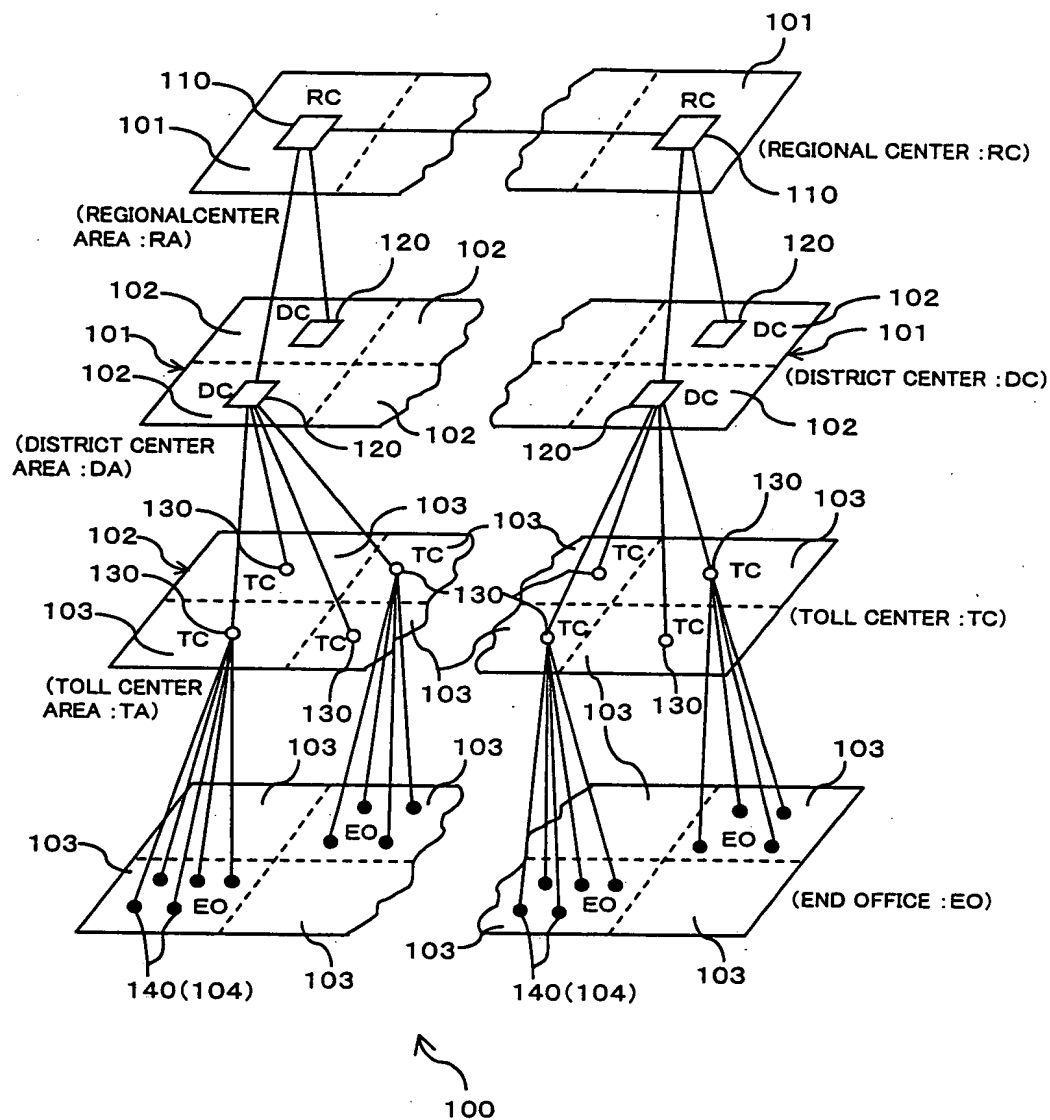


FIG. 23

FIG. 24

FIG. 24

RELATED ART

